50 Foot Circles – Empowering Persons with Hidden Mobility Disabilities in the City of Short Distances

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ABSTRACT

The theme of the 2019 IMCL Conference floodlights the most important issue facing urbanists today: equity in all of its forms. A "Healthy City for All" means a healthy city for *everyone*, with no one left out. The promises of True Urbanism ring hollow if only certain categories of urbanites are fully served and supported. Within the already vulnerable realm of those with disabilities, one sub-category is particularly challenged: people who experience *hidden* mobility disabilities for whom *distance* is the primary barrier to the benefits and opportunities of community participation.

This paper began in conversation at IMCL's 2018 conference in Ottawa, between a leading activist in hidden mobility disabilities (those with mobility limitations not apparent to an observer, in contrast to, for example, a person using a wheelchair) and an urban designer specializing in walkability and multi-modal transportation. The activist offered a challenge: What does the City of Short Distances look like when fully accessible to people with hidden mobility disabilities? From this question emerged this collaborative exploration.

In this paper, the walking limitations facing people with hidden mobility disabilities are mapped to the planning and design strategies of healthy cities, represented by recognized prototypes and IMCL's principles of True Urbanism. Applying the principles of comprehensive multi-modal transportation, the authors offer new ideas, patterns, and strategies, addressing not just planning and design but also the realms of education, regulation, and governance.

The authors assert that in healthy cities for all, all really can be included! The inclusion of those with hidden mobility disabilities is a key step on the path to realizing this vision.

Key words: accessibility, hidden mobility disabilities, public space, complete streets, distance, urban design, inclusive design, universal design, transportation planning, urban planning

I. THE BARRIER OF DISTANCE

In a poignant cartoon (see Fig. 1) by Valerie Ward,[1] a person stands in the foreground with their back to the observer. Opening up before this person is a vision of urban walkability: an inviting "main street" lined with shops and awnings and people walking to and fro and sitting in sidewalk cafés and with no cars in sight. The path ahead is surely accessible: no curbs, no steep grades, and ample widths. At the end of the street, well within the quarter-mile (1,320 feet) "circle of walkability", is the person's objective, a library where a public meeting is about to be held. And yet, this person might as well be facing a moat filled with alligators. This person is stopped in her tracks by the barrier of *distance*.

Figure 1 – *Facing the Barrier of Distance.*

An increasing portion of the population (those with osteoarthritis, COPD, heart disease, or over 30 other health conditions) suffer serious health consequences when faced with walking more than 35 to 50 feet, or the length of one to one and a half school buses. The ability to walk only short distances without health consequences is known as a "hidden mobility disability" (HMD) because it is truly invisible to others. Those with HMD often walk without a mobility aid and indeed are encouraged by health care professionals to remain mobile as long as possible, rather than reverting to a mobility aid such as a wheelchair or scooter.

The invisibility may come not only from a lack of visual cues that the person needs mobility assistance but also from reticence about claiming a disability because, after all, they *can* walk – some. They may be shy about saying that the "short distance" being indicated is too far away to be walked comfortably, or they may not realize just how long that "short distance" actually is until they have reached a point of no return. It is hard not to give-in to the airline staff who say, "It's only a short walk up the jetway," or the mechanic who says, "Your car is just over there," when the distance is actually 100 to 200 feet (much further than the person with HMD can walk without difficulty).

[1] Contact information: Valerie G. Ward Consulting Ltd. (valeriegward@gmail.com).

Research shows that only 56 percent of persons with HMD can walk as far as 70 feet without serious health consequences.[2] If required to walk more than is comfortable, research indicates the following *immediate* consequences for persons with HMD:

- 77% have increased joint pain
- 52% walk more slowly until almost not moving
- 46% have increased difficulty breathing
- 43% have trouble walking at all the next day
- 40% begin to stagger and lose balance
- 31% become immobilized by pain

Over 20 percent of those with HMD cannot take anti-inflammatory medication, so their only recourse if required to walk "too far" is to rest – often up to four days! – until they are able to walk again.

Unfortunately, well-intentioned desires to make urban areas "more walkable" and to limit or eliminate car traffic are making it more difficult for those with HMD to participate in community life. Curbside parking in front of service provider offices is dramatically decreasing. Some city building codes define "accessible parking" as being within two blocks (i.e., 700 feet or more, or out of the walking range of a person with HMD). A recent trend promotes changing city codes so that downtown residential complexes can use existing parking garages that are within 1,000 feet of the structure in lieu of providing on-site parking, thus placing parking well beyond the healthy walking distances of residents or visitors with HMD.[3] For many with HMD, a car (or some other form of point-to-point transportation)[4] is the only way in which they can access activities and services outside the home.

The inability to stroll around a neighborhood, enjoying serendipitous encounters with strangers as well as interactions with friends, unfortunately creates an increasing sense of social isolation[5]. An inability to predict whether or not a car can be parked within a comfortable (35-50 feet) walking distance of their destination adds to the reluctance to venture out, thus increasing that feeling of exclusion from community participation.

There is one additional characteristic of those with HMD that should be considered in urban design: the inability to stand more than 1 to 2 minutes without pain and muscle spasm. Taking public transportation as an example, even if walking distances were shortened to less than 50 feet, any requirement to stand and wait could make public transportation inaccessible to those with HMD.

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[2] See research reports by Jonathan Berkowitz and Dorothy Riddle published in March 2017 (http://hiddenmobilitydisabilities.com/wp-content/uploads/2017/03/HMD-Research-Report-Number-1.March2017.pdf) and October 2017 (http://hiddenmobilitydisabilities.com/wp-content/uploads/2017/10/HMD-Research-Report-Number-2.October2017.pdf).

[3] Jeff Speck (2018), *Walkable City Rules: 101 Steps to Making Better Places* (Washington, DC: Island Press).

[4] Other modes (albeit less convenient than personal automobiles) may include hired autos (including "autonomous vehicles") and various forms of "paratransit" (e.g., scheduled or "dial a ride" minibuses and shuttles, noting that many "on demand" options may entail long or indeterminant waits for service).

[5] For a detailed account of issues for those with HMD, refer to Dorothy Riddle's paper presented at the 55th IMCL Conference in 2018, "How Far Can You Walk? Hidden Mobility Disabilities and Community Participation".

II. TRUE URBANISM AND HMD ACCESSIBILITY

In the cartoon, the person with HMD is stopped short by the inability to navigate a classic model of urban walkability and is thus cut off from full participation in the Public Commons where the benefits of livable cities are enjoyed. What's up with this and what can be done about it? To explore this question, we start with a robust vision of urban livability, as expressed by IMCL itself, through its core principles of "True Urbanism".

Inspired by the human scale and "short distances" of the pre-automobile city, architects, urban designers, and planners began in the late 1960's to articulate a return to urbanism's pre-automobile patterns and values – in no small part as an antidote to the low-density urban sprawl made possible by the automobile's meteoric rise following World War II. Known as "Traditional Town Planning" or "New Urbanism", this rediscovered model linked "walkable" distances, mixed uses, traditional architectural forms and styles, and a return to the critical supporting role of public transportation. The International Making Cities Livable (IMCL) movement represents these features as "True Urbanism", the path forward to ecologically and socially sustainable cities that support, nourish, and delight us. Following are some key characteristics, excerpted from IMCL's Mission Statement[6]:

- A well-functioning public realm … that exists in multi-functional public places, squares and marketplaces.
- Appropriate human scale architecture, mixed use shop/houses, and a compact urban fabric of blocks, streets and squares.
- A "city of short distances" where balanced transportation planning makes possible commuting via pedestrian networks, bicycle networks, traffic-quieted streets, and public transportation.
- The ideal environment for the physical, mental and social development of children and youth.

Two key principles that define the "City of Short Distances" are *walkability* and *intermodality*. Walkability is a characteristic of urban design, a constellation of features that make the city conducive to walking and other forms of human-powered mobility. Intermodality is a characteristic of public transportation, the presence of interconnected modes of transport that conspire to support trips of all distances and complexities within the city and beyond. Walking is inexorably bound to multimodality: it can be said that every multimodal journey, almost without exception, begins and ends on foot (see Fig. 2).[7]

These principles in practice are best illustrated by the planning and design of a "meme" of True Urbanism, the Transit Village, a compact mixed-use urban community organized around a railway or public transit station (see Fig. 3). The goals of this model are truly aspirational. Working first to minimize absolute demand for transportation (thus reducing the "carbon footprint") by creating a closely-scaled local live-work community with all elements of urban life within easy walking distance, an easy walk then connects all areas of the village to regional

[6] IMCL's Mission Statement (with further links to a detailed discussion of "True Urbanism") is located here, on IMCL's website: http://www.livablecities.org/about/mission

[7] In Rick Phillips's paper presented at the 51st IMCL Conference in 2014, "Nature's Mode – Reframing Walking as Urban Transportation", walking itself is proposed as a *mode* of transportation, as vital as any other mode – a strategy to ensure that the needs of human beings are taken as seriously as the needs of planes, trains, and automobiles.

high-speed public transportation, enabling village residents to travel beyond the Transit Village free of their cars – assuming, of course, that reasonable walks await them at their destinations![8]

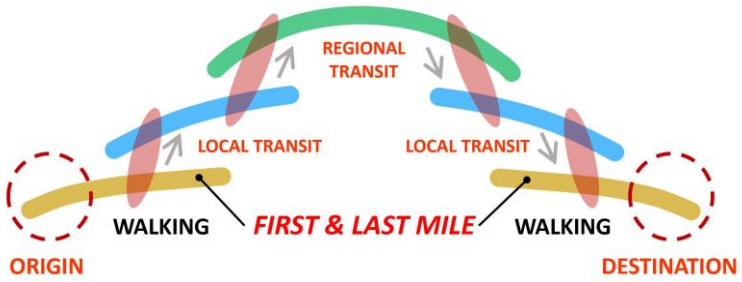

Figure 2 – *An Intermodal Journey and the "First and Last Mile."*

Central to this model is a question that sits at the nexus of walkability and transportation: what constitutes (both in length and time) a reasonable walking distance? The general consensus is that urban walkability translates into two "circles" around a walker's point of departure: an "easy" walk of a quarter mile (1,320 feet, or approximately 10 minutes) and a longer "reasonable" walk of a half mile (2,640 feet, or approximately 20 minutes). In the classic Transit Village model, the dense, walkable, mixed-use village core fits within a radius of a quarter mile around the transit station and less dense transitional neighborhoods within a radius of a half mile. Anyone who has attended a Transit Village "charrette" or planning workshop will have met firsthand the ubiquitous quarter and half mile circles!

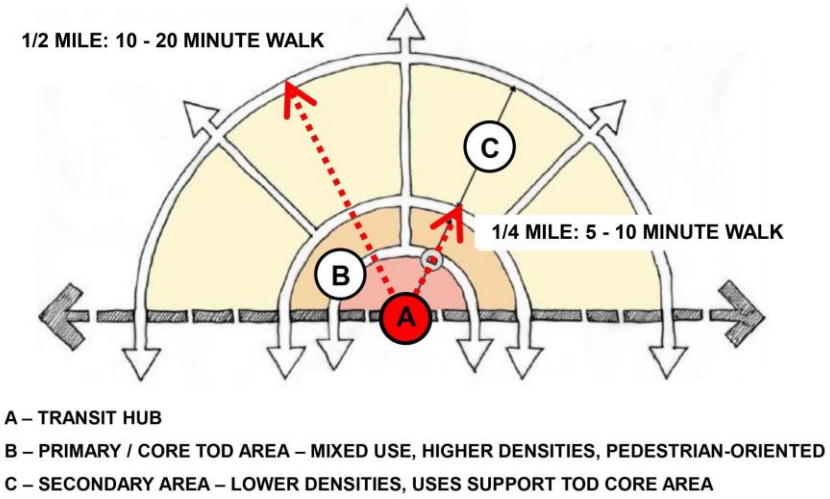

Figure 3 – *The Transit Village and "Walkability Circles."*

The principles of the "circles of walkability" are also applied to urban design generally – for example, it's considered reasonable to locate parking as far as a quarter to a half mile from an associated urban destination. Under this model, it's possible to create significant invigorating auto-free zones in cities, where visitors arriving by car are encouraged to park in peripheral

[8] An important topic in contemporary transportation planning is "The First and Last Mile", or what happens "on foot" at both ends of an intermodal transportation journey (see Fig. 2). This recognizes that all intermodal trips, however complex or long, begin and end with walking, or some other form of human-powered mobility.

parking garages and switch to walking or shuttle transit. This rebalancing of vehicle and pedestrian primacy has revolutionized many aspects of the public realm, contributing greatly to the health, vitality, and life satisfaction of most city residents, workers, and visitors. Through such principles, True Urbanism has generated a world where the automobile is no longer dominant – and, for some, preferably not present at all!

What this world looks like is the vista faced by the person with HMD in the cartoon, a vista of the healthy city as pedestrian focused. Except that here we have an equity problem: this "healthy city" is *unhealthy* and inaccessible for persons with HMD, contributing to their invisibility and increasing social isolation. If distances considered as "walkable" entail serious health consequences for persons with HMD, we cannot claim that such "healthy cities for all" are available to all people with no one left out. Our work is not done.

III. WALKABILITY REFRAMED

Our goal is to expand, not discredit, the model of True Urbanism! As champions for all that livable cities make possible, our goal is to open the tent of urban livability to all, regardless of mobility constraints. Consider that the templates of quarter and half mile circles are based on the capabilities of people who have, at worst, temporary walking limitations. In this context, disability is held to be an *exception* and the appropriate response is to *mitigate* the impacts of the able-bodied model through *exceptional* interventions where necessary.

This practice of mitigation, backed by law, is both essential and well-meaning and has led to a revolution in urban accessibility focused primarily on ensuring maneuverability for those using mobility aids. An exemplar in the United States is the body of design guidelines, requirements, and standards governed by the Americans with Disabilities Act (or ADA).[9] A Canadian example is the "Design of Public Spaces Standard" (DoPS) supporting the Accessibility for Ontarians with Disabilities Act (AODA)[10].

The problem with this approach is that it starts with the Public Commons designed for the able-bodied and then lets in people with mobility disabilities one disability at a time. Progress is certainly made but at the risk of people with disabilities being held (even with the best of intentions) as "problems to be solved", rather than as fully integrated members of urban society. Moreover, as "problems", their needs are added to a long queue of other needs that may only be met over time as schedules and budgets allow.

We propose a different approach: change the *context* of addressing disability within the Public Commons from well-meaning *mitigation* to *inclusive design*.[11] The key is to see walkability itself (including all of its distinct "abled" and "disabled" variants) *reframed* as a critical mode of intermodal transportation[12].

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[9] See details on ADA (and also Architectural Barriers Act, or ABA) transportation-related guidelines at https://www.access-board.gov/guidelines-and-standards. See separate sections on "Streets and Sidewalks" and "Transportation". Site includes active standards and new or revised standards currently under consideration.

[10] See details at https://www.ontario.ca/page/how-make-public-spaces-accessible.

[11] We distinguish "inclusive design" from "universal design" whose principles do not explicitly address *distance* or *time standing* as access barriers.

[12] As explored in transformational theory (as in work by W. Erhard and others), the roles of *context* and *reframing* are described in detail in Rick's IMCL paper "Nature's Mode" (see Footnote 7).

Walking as Vehicle, Path, and Role

The detailed case for reframing urban walkability as a *mode* (or mobility choice) within public transportation is the subject of a paper presented by Rick Phillips at a previous IMCL conference (see Footnote 7). What's relevant here is to understand that walking, as with any mode of transportation, is defined by three essential interlocking characteristics:

- Walking as a "vehicle" – For any mode of transportation, the vehicle is the element that moves. In most cases, we are *carried* by the vehicle (think car, bus, train). When walking, *we* are the vehicle – we carry ourselves.
- Walking as a "path" – For any mode of transportation, the path is the element that doesn't move (think streets, railroad tracks, canals, runways). For walkers, think sidewalks, trails, public squares.
- Walking as a "role" – In a well-conceived intermodal transportation system, every mode is assigned to the type of trip it serves best, and all modes are interconnected. For walking, think short trips within the physical abilities and comfort zone of the walker.

In the aforementioned paper, the essential role of walking (and some other variants of human-powered mobility) is distinguished as serving the "short trip market" – examples include trips within a compact urban district, trips to and from the station in a Transit Village, or connecting between other modes at an intermodal terminal. Implicit is the assumption that walking is the mode that best serves the short trip market and that, in this case, other modes – the automobile in particular – are best suited for other roles and should be de-emphasized or even banned.

At issue, then, is what constitutes mobility within the short trip market when walkers with HMD may be limited to walks of less than 50 feet, beyond which other modes such as the automobile must be available in order to avoid negative health consequences from attempting to walk farther. The answer lies in reapplying the principles of multimodality, supporting trips within the short trip market that combine walking and motorized transportation as linked modes within a planned and supported multimodal journey. In standard models of walkability, we speak of "quarter-mile circles" – in this model, our circles are 50 feet!

50-Foot Circles and Automobiles

For walking as *vehicle*, the *path* is all about urban design, or the many ways we structure the path to make walking safe, engaging, manageable, and enjoyable (again, that vista in the cartoon!). Obviously, "accessibility" (in codes like ADA, defined primarily as removing physical blocks to maneuverability) is one of walkability's essential foundations, as anyone using a wheelchair can attest. However, for persons with HMD, accessibility is not so much about tackling barrier curbs, steep grades, narrow sidewalks, and stairs as it is about *distance*. When the Transit Village's quarter-mile circles are replaced by HMD's 50-foot circles (the distance of one and a half school buses) (see Fig. 4), other modes must reappear on the commons, and the most suitable is most likely our current favorite bogeyman, the automobile.

To a critical extent, persons with HMD rely on the automobile (self-driven or hired) to land within a short (up to 50-foot) walk of any urban destination. Of course, people with many other disabilities also rely on motor vehicles, and ADA (as only one example) mandates disabled parking with accessible paths to associated destinations. However, consider this challenge: Under ADA, several city blocks might be served by a pod of disabled parking in an off-street

garage, yet the "accessible" walking distances could be up to 1,000 feet and way too long to accommodate people with HMD. Curbside parking within 50 feet of an urban destination is often the only reasonable solution for individuals with HMD.

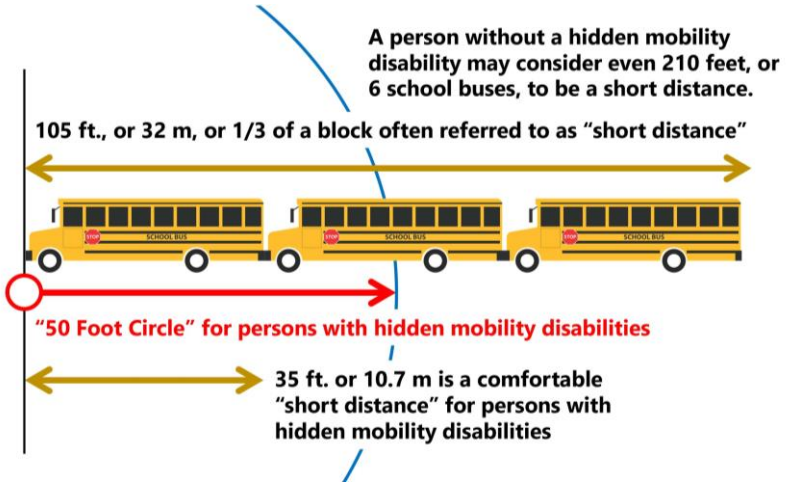

Figure 4 – *"50 Foot Circles" and School Buses.*

Good News

So, does bringing the automobile back to pedestrianized streets and city plazas violate the principles and vision of True Urbanism? In the case of supporting people with HMD, we strongly assert that including the automobile is entirely consistent with the interplay of walkability and intermodality that underpins urban livability. To understand why, go back to walking as a mode of transportation. Walking in general is a mode composed of vehicle and path, and walkers with HMD are a specialized "sub-mode" of walking. The *vehicle* (a person with HMD) has specific abilities and limitations and the *path* must be tailored accordingly: the paths are short and filled with supportive amenities, while intermodal transportation – in this case, the automobile – is only 50 feet away.

Figure 5 – *An Intermodal Journey and the "First and Last 50 Feet."*

The good news is that this use of the automobile – linked with walking as a *highly-specialized transportation mode* within the context of *multimodal transportation* – will have modest impact on overall urban livability as persons with HMD currently comprise approximately 10 percent of the urban population. As long as intermodal use of the automobile within 50 feet is limited to those with HMD (see Fig. 5), the vision of a predominantly pedestrian realm will be maintained.

IV. THE VISION TRANSFORMED

At this early stage in our path toward equity, our goal is to articulate a persuasive vision of the livable city that fully incorporates the needs of people with HMD, and suggest ways to achieve this vision through both urban design and progressive policies and attitudes. This goal can be summarized in the form of two questions:

1. What does this livable city look like? – Put another way, if this city is transformed, what will the person with HMD in the cartoon see before them?
2. How do we get there? – How must the very conversation – the *discourse* – of HMD in the city be transformed, in the realms of both governance and community perception?

A City Transformed for Persons with HMD

In this section, we offer an overview of key design strategies and recommendations that would fully incorporate the mobility requirements of persons with HMD, freeing them to join the entire community in full participation of the best of life in the Public Commons. These are provided in rough order of hierarchy, from general strategies to more focused recommendations. In this case, strategies are not meant to be "more important" than recommendations – rather that strategies, once in place, provide a powerful context for specific recommendations.

Clarify the Meaning of "Accessible"

- Be explicit about addressing the barriers of distance and time standing by adding to the standard definition of "accessibility" the following text in italics: "A person can, without assistance, approach, enter, pass to and from, and make use of an area and its facilities without incurring health consequences. *For those with mobility disabilities, accessibility includes issues of maneuverability as well as (to support walking as an inclusive human activity) distance (of less than 15 meters, or 50 feet), and time standing (of less than 1.5 minutes).*"

50 Foot Planning

- Walkability and the Automobile – Incorporate the automobile as a *specialized mode* within walkable urbanism that supports the mobility needs of people with HMD. As a *strategy*, this provides a context for a range of supportive urban planning, design, and transportation recommendations.[13]
- Streets and Blocks – In planning the "City of Short Distances", design streets to bring automobile parking and loading within 50 feet of most urban destinations. This may be most easily achieved with HMD-dedicated curbside parking along traditional multi-use "main streets" or along urban grids featuring small block lengths (see Fig. 6).[14]

[13] This strategy is consistent with "Complete Streets", a growing transportation model that supports all transportation modes that have legitimate access to the street. These modes typically include cars, other motor vehicles, public transit, bicycles, and pedestrians, each path for which is carefully designed to support the mode's requirements while minimizing conflicts with other modes.

[14] Portland, Oregon's downtown grid (see Fig. 6) in is one example: with square blocks approximately 200 feet on a side, two HMD-dedicated spaces located at the quarter points would cover 100% of the block frontage. (Note, however, that many Portland blocks do not accommodate curbside parking for a number of reasons).

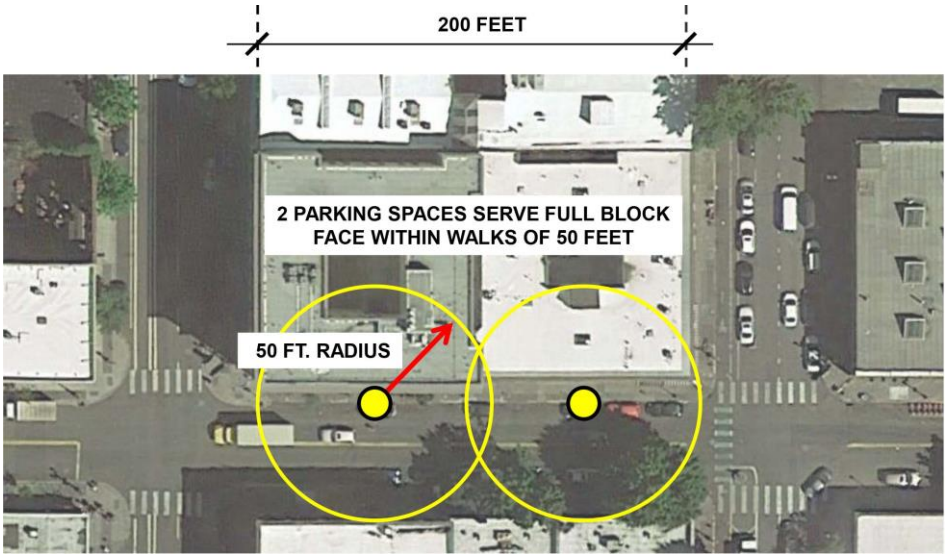

Figure 6 – *In this demonstration of HMD-dedicated curbside parking applied to a standard city block in Portland, Oregon, eight parking spaces combine to bring the entire frontage of the block's four sides within walks of 50 feet. For a more-typical city block of 325 feet, the equivalent would be three parking spaces per side for a total of twelve spaces per block.*

- Dedicated Parking – Develop and manage close-in HMD parking distinct from general disabled parking, as HMD parking addresses the barrier of *distance*, not barriers of access blockage or maneuverability. Naturally, paths connecting HMD parking to urban destinations must still be accessible under ADA or other standards.
- On-Street Parking - Use of automobiles is a primary method for persons with hidden mobility disabilities to access public spaces. If one intention of "complete street" design is to encourage non-disabled persons to walk rather than drive, consider dedicating most on-street spaces to use by people with HMD or other special needs requiring close proximity to on-street destinations.
- Off-Street Parking Serving a Primary Destination - Add to accessible off-street parking requirements that at least 50% of accessible parking spaces be within 50 feet of the entrance to the destination (building, public space, etc.), as well as to elevator lobbies in multi-level garages (see also, "I'm in the Building – Now What?", below).
- An Autonomous Future – "Autonomous Vehicles" (AVs) will enable a person with HMD to deliver themselves to within 50 feet of a destination, send their car off to park, and summon the car for pick-up on demand. As with HMD-dedicated parking, widely-distributed dedicated curbside pick-up/drop-off zones will be essential.

Beyond 50 Feet

- Bridging the Gap– To support the needs of *all* with HMD, regardless of limitation, all destinations required for everyday living need to be reachable within 50-foot walks; however, even the best planning will not always meet this requirement. In such cases, the addition of carefully planned and operated motorized transit (e.g., trams, streetcars, mini-buses) that make frequent stops (or stop on demand) can extend the walking distance of a person with HMD. For example, in the cartoon (see Fig. 1), a free continuous-loop shuttle

that stops on request (or has designated stops no more than 100 feet apart) would make the plaza accessible to the person with HMD (see Fig. 7).[15]

- Extending the Range – For the one-third of people with HMD who can walk beyond 50 feet on a "good day" (sometimes even up to 100 feet), such distance is made more feasible by providing supportive places to pause and rest. To break-up longer required or discretionary walks in the public realm (or in buildings, see below), provide rest spots with seating at 50-foot intervals. Additional amenities may include shelter from rain and sun, drinking water – even restrooms in some cases. Note that such features make every walker's life easier, not just people with HMD![16]

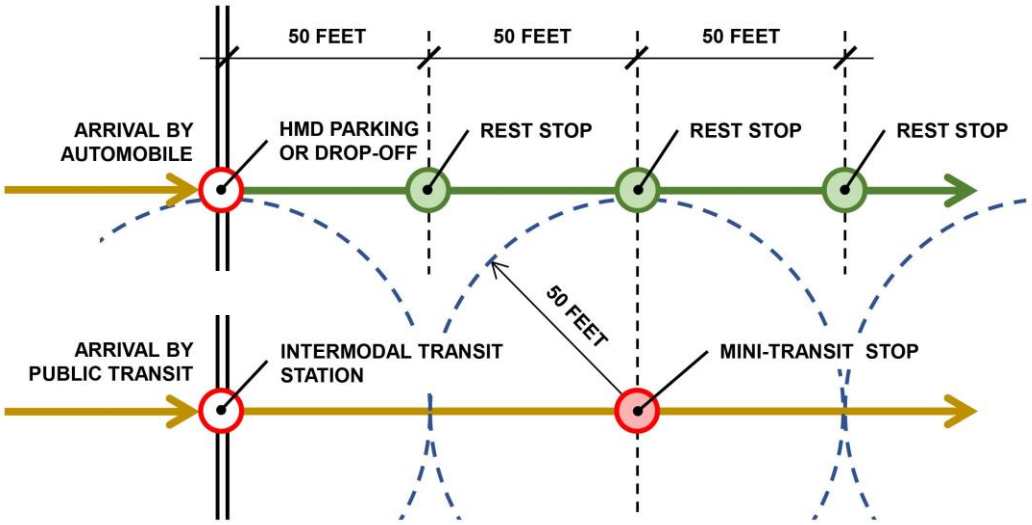

Figure 7 – *Extending the Range: Rest Stops and Mini-Transit.*

- Supportive Recreational Amenities – While many people with HMD may not choose, or be able, to tackle recreational paths that are often well over half a mile in length, there are many recreational opportunities (scenic landscapes, vista points, picnic sites, sports and concert venues, etc.) that they would love to enjoy if access is brought within reasonable walking distances and paths provide supporting amenities. The layouts of circulation and access within parks and other public spaces must incorporate the needs of people with HMD. Even a general strategy of providing sheltered seating within 50 feet of parking can increase the ability of people with HMD to enjoy the out-of-doors.
- Public (Not Private) Amenity – Pedestrian-friendly streets are often lined with amenities such as "parklets" and sidewalk cafés, provided by fronting businesses. For people with HMD, sufficient rest spots must be publicly managed so that access is not dependent on required (or even "encouraged") financial transaction.

[15] Caution is needed if considering moving sidewalks (an alternative often used in airport concourses to break-up long walks) as they require both standing and rapid response when entering and exiting, conditions that may not be feasible for many persons with HMD.

[16] These and other features that support the walker's *path* are described in Phillips's paper, "Nature's Mode – Reframing Walking as Urban Transportation" (see Footnote 7).

- Wayfinding – Signage in the walkable realm must provide information that enables a person with HMD to accurately assess the difficulty and complexity of a contemplated walk. To be useful, length of walk must be expressed as *distance*, not only as *time*.

Outside and Inside

- Ramps or Stairs? – In another Valerie Ward cartoon (see Fig. 8), a person with HMD faces the entrance to a clinic and this choice: take the long ramp (certainly longer than 50 feet!) or the shorter but challenging stairs? When the primary barrier is *distance*, the stairs are the better option; however, for people with HMD to rest while climbing, at intervals of seven steps, a landing and seat (fixed or fold-down) must also be provided.
- Waiting – For people with HMD, standing can be as problematic as walking. Wherever people must stop and wait, "rest stop" amenities must be provided – at least seating if nothing else. Locations include building entrances, elevator lobbies, checkpoints and fare gates (as in transit stations and airports), service windows, self-service kiosks and walk-ups of all kinds, bus and tram stops, public restrooms, and designated queuing zones (such as along sidewalks in front of theaters or in amusement parks).
- I'm in the Building – Now What? – Once inside, the same rules apply: 50-foot walks, rest stop amenities, alternative mobility modes, and informational signage. Keep in mind that walking distances in many structures – think shopping malls, hospitals, governmental and professional service office buildings, airports, train stations – are comparable to the longest "walkable" distances in transit villages and pedestrianized urban cores. Solutions can be based in service as well as design: for example, in waiting rooms, a system based on "taking a number" allows a person with HMD to sit down rather than stand in line.

Figure 8 – *Facing a choice: Take the stairs or take the ramp?*

Strategies for Governance and Acceptance

So, the question remains, "How do we get there?" How do we transform deeply held and often un-distinguished public and managerial attitudes that bog down the positive changes needed to fully integrate people with HMD into cities that work for all, with no one left out? As described in Section III, we start by re-framing the context of how we address disability from

exceptionalism to *inclusion* and then elevate walking in the context of HMD to the status of a distinct *mode* of transportation, with the full distinctions of any mode, *vehicle* and *path*. What follows naturally could be a revolution in how things get done.

The biggest challenge we face in addressing the needs of people with HMD is how to promote and manage the host of changes needed to make our existing urban environments fully accessible. Historically, addressing the mobility needs of pedestrians has been a process of incremental, gradual improvement, delivered often as collateral benefits of urban redevelopment projects and major public works such as urban street reconstruction. As a consequence, the needs of the pedestrian – including pedestrians with HMD – follow at the back of the line, subject to muddled priorities, budget challenges, and incomplete solutions. In our view, the best strategy is to establish, as governmental policy, the primacy of inclusionary design and then bring walking (in all of its variations) fully into the world of comprehensive, intermodal public transportation.

What then is possible? In his 2014 IMCL paper on walking as transportation (see Footnote 7), Rick offered these possibilities:

> Once walking is brought inside the realm of multimodal transportation, it must work as any other mode – path must correlate to vehicle, and both must fully support walking's assigned role within the transportation network. … When the scope of public transportation *includes* [walking], the conversation of walkability will be transformed. Enhancements to the walkable realm will develop concurrently with other modes of transportation, insuring full access and intermodal connectivity. Walkability will share in the funding that supports other modes, no longer at the end of the line. The "silos" that separate transportation from urban design will be abolished. The needs of the human as *vehicle* … will be fully expressed through planning and design – as requirements, not enhancements.

All walkers in the Livable City will reap these benefits, including most certainly walkers with hidden mobility disabilities!

V. ON THE PATH TO EQUITY

As we invite you to join us on this mission, we share with you a few personal thoughts:

Dorothy – As we embark on community-based experiments to include those with HMD in community life, beware of blind spots! For example, physical accessibility to community meetings and workshops *on* HMD – even presentations to City Councils! – must embrace the needs of those *with* HMD. As a leading disability activist who has HMD, I've been invited to participate in a number of such events where locations were not within a healthy walking distance for me, or consultation set-ups were arranged as a series of poster boards that one had to walk around and stand in front of in order to view. Not surprisingly, I had to decline!

Rick – What led me to approach Dorothy to collaborate on this paper was an "ah ha!" moment I experienced at IMCL's 55th Conference in Ottawa in 2018. As Dorothy presented on hidden mobility disabilities (see Footnote 5), I realized that the concept itself was hidden from me: HMD was part of "what I didn't know that I didn't know" – and me, a self-described evangelist for equity in the public realm! In that moment, I experienced why we had come from all over the world to gather in Ottawa: to join IMCL in forwarding a remarkable, ongoing, generative

conversation exploring every facet of what makes the livable city rise to its own immense possibility – the expression and embodiment of humankind's highest aspirations!

Conclusion

One still might ask: "Why seek to reframe the context of walkability when we can provide through mitigation all that persons with HMD require to navigate the commons?" In our view, mitigation as *strategy* – even with the best of intentions – tends to marginalize those who rely on mitigation to gain full access to community participation. By contrast, inclusive design becomes part of the "regular order of business", affirming those with HMD as equal in every way to the rest of us, thus shifting persistent and outdated public policies and attitudes. This act of reframing brings people with HMD "inside the tent" to join the rest of us as fully-entitled citizens of the livable city.

Working at this level is the truest path to equity.